

REMARKS

At the outset, the Examiner is thanked for the very thorough and professional office action. Pursuant to that Office Action, Claims 1-3 have been amended to more definitely set forth the invention and obviate the rejection. Support for the amendment of Claim 1 can be found in the Specification on page 1, lines 4-7; page 5, last three lines; page 6, lines 1-29; page 6, lines 19-26; and Figs. 1, 3 and 4. The present amendment is deemed not to introduce new matter. Claims 1-3 remain in the application. Reconsideration is respectfully requested of the rejection of Claims 1 and 3 under 35 U.S.C. § 102(b) as being anticipated by Siersch 9408066.

When using a medical stereomicroscope for dental examination or treatment, the observation target is frequently a tooth or a root canal in which both usually have considerable ruggedness. Therefore, adequate brightness and field depth are required for obtaining a clear visual field. Particularly in a case where there is a difference in height within a narrow field, a lower portion would be affected from a shadow of a higher portion; therefore, the creation of a shadow should be restrained as much as possible (Specification, page 1, lines 12-20).

In some prior art inclined illuminator type microscopes, the optical axis for the observation optical system and the optical

axis of the illumination optical system form a large angle. In such cases, the optical axis of the illumination system will be in a position forming a large angle with respect to the surface of the observation object, and result in a problem of the creation of a large shadow upon a subject undulated portion (e.g., root canal) of the observation target when the optical axis of the observation optical system is positioned perpendicular to the surface of the observation target (Specification, page 3, lines 5-11).

Applicants unexpectedly discovered that the inclined illuminator type binocular stereomicroscope called for in the claims herein solved this problem in the art. In the present invention, the observation optical system 1 such as shown in Fig. 1 magnifies an observation target surface for 4a, e.g., a root canal, of the observation target 4, e.g., a tooth, to a prescribed magnification for performing observation. The observation optical system 1 is comprised of a group plural lenses including right and left secondary objective lenses 1b disposed closest to the observation target 4 and a prism 1c. Further, a magnification changing portion 5 of a zooming type is disposed between the secondary objective lenses 1b and the prism 1c (Specification, page 6, lines 27-29; page 7, lines 1-3, and Fig. 1).

In the inclined illuminator type binocular stereomicroscope of the present invention which can be used for dental treatments, there is used a single illumination optical system having an illumination unit for illuminating an object targeted for observation (Fig. 1).

Moreover, the illumination unit has an optical axis arranged inside a circle, the circle has a diameter connecting the optical axis of the right and left observation optical systems in a plane including at least the lenses of the right and left observation optical systems positioned closest to the observation target.

None of the inclined illuminator type binocular stereomicroscopes disclosed in the Siersch reference contain all of the features now called for in the claims herein. For example, the stereomicroscope shown in Fig. 1 of Siersch while containing a single illumination optical system, fails to disclose the use of either a stereomicroscope used for dental treatment or an illumination system which has an optical axis arranged inside a circle which has a diameter connecting the optical axis of the right and left observation optical system. Although this latter feature is shown in Fig. 3 of Siersch, there is no disclosure that the device used in Fig. 3 has a single illumination optical system nor is there any disclosure that this device could be used for dental treatment.

Moreover, the stereomicroscope shown in Fig. 4 of Siersch also fails to use a single illumination optical system as now called for in the claims herein, and there is no disclosure that this stereomicroscope could be used for dental treatments. It is therefore respectfully submitted that none of the embodiments shown in Figs. 1, 3 and 4 of Siersch have all of the features as now called for in the claims herein. For this reason, it is respectfully submitted that the Siersch reference fails to anticipate or render unpatentably obvious the subject matter now called for in Claims 1 and 3 herein. Consequently, the Examiner would be justified in no longer maintaining the rejection. Withdrawal of the rejection is accordingly respectfully requested.

Reconsideration is respectfully requested of the rejection of Claims 1-3 under 35 U.S.C. 102(b) as being anticipated by Buhler, 3909106.

The Buhler reference, like the Siersch reference discussed above, fails to disclose all of the features now called for in the claims herein. For example, Buhler fails to disclose in Fig. 1 an illumination unit having an optical axis arranged inside a circle which has a diameter connecting the optical axis of the right and left observation optical systems.

As pointed out above, it is important in the

stereomicroscope of the present invention used for dental treatments to make an appropriate shadow in a canal-shaped target like a root canal of a tooth. If a stereomicroscope lacks a single illumination optical system and instead uses plural illumination units, it is difficult to make appropriate shadows. Plural illumination deletes shadows on such root or such canal-shaped targets.

Also, when the illumination unit of the stereomicroscope fails to have a optical axis arranged inside a circle which has a diameter connecting the optical axis of the right and left observation optical systems, the light from the illumination unit does not reach inside of the canal-shaped target. For these reasons, the stereomicroscope such as disclosed by Buhler fails to solve the problems confronted by the present inventors so as to produce appropriate shadows in a canal-shaped target like a root canal of a tooth.

It is respectfully submitted that the Buhler reference fails to anticipate or render unpatentably obvious the subject matter now called for in the claims herein. For these reasons, the Examiner would be justified in no longer maintaining the rejection. Withdrawal of the rejection is accordingly respectfully requested.

Reconsideration is respectfully requested of the rejection

of Claim 2 under 35 U.S.C. § 103(a) as being unpatentable over Siersch.

As pointed out above, the Siersch reference fails to disclose the stereomicroscope as now called for in the claims herein. Additionally, it is respectfully submitted that the Siersch reference neither anticipates nor renders unpatentably obvious the subject matter now called for in the claims herein. Consequently, the Examiner would be justified in no longer maintaining the rejection of Claim 2. Withdrawal of the rejection is accordingly respectfully requested.

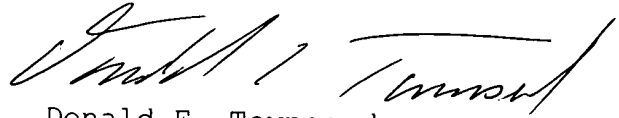
The prior art made of record is noted, the Examiner apparently recognizing that these references are not relevant inasmuch as the Examiner has not predicated a rejection thereon.

In view of the foregoing, it is respectfully submitted that the application is now in condition for allowance, and early action and allowance thereof is accordingly respectfully requested. In the event there is any reason why the application cannot be allowed at the present time, it is respectfully requested that the Examiner contact the undersigned at the number listed below to resolve any problems.

DOCKET NO. NAK-060-USA-P

Respectfully submitted

TOWNSEND & BANTA

A handwritten signature in dark ink, appearing to read 'Donald E. Townsend', written over a horizontal line.

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